The Avifauna of Bylot Island.

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(Med et dansk resumé: Fuglelivet på Bylot Island).

The purpose of this paper is to document the bird species observed by us on Bylot Island during the spring and summer of 1957 with such observations from the literature as may be relevant.

We arrived at Pond Inlet, north Baffin Island, by DC3 aircraft on May 28, 1957, landing on the sea-ice in Eclipse Sound. Our objectives were to study Murres (*Uria lomvia*) in the Cape Hay region (Tuck) and Snow Geese (*Anser caerulescens*) in the southwest region of Bylot Island (Lemieux). From Pond Inlet we proceeded to our respective study areas by dogteam on the sea-ice. Each of us was accompanied by an Eskimo and his family, who remained with us during the summer. Our stay on Bylot Island extended from June 1 to August 25. Most of that period was spent in our respective study regions.

Only the highlights of our study projects can be presented here as the extensive data obtained are still being studied. This paper is a documentation of the bird observations we made on Bylot Island during 1957, and those recorded previously, with a brief account of bird distribution and abundance.

The first ornithological account from Bylot Island was that by Peter Freuchen (Hørring, 1937). Freuchen spent from March 25 to August 5, 1924, in the vicinity of Pond Inlet and also visited Button Point and several other localities on Bylot Island. D. V. Ellis (1956) recorded a number of bird observations, mainly at Button Point during the spring of 1955. Katherine Scherman (1956) accompanied an expedition in 1954 which spent six weeks mainly near the Actineq River. Mrs. Scherman wrote a delightful book, "Spring on an Arctic Island" based on that visit, which contains a number of ornithological observations.

Bylot Island (fig. 1) is situated between latitudes 72° 45′ and

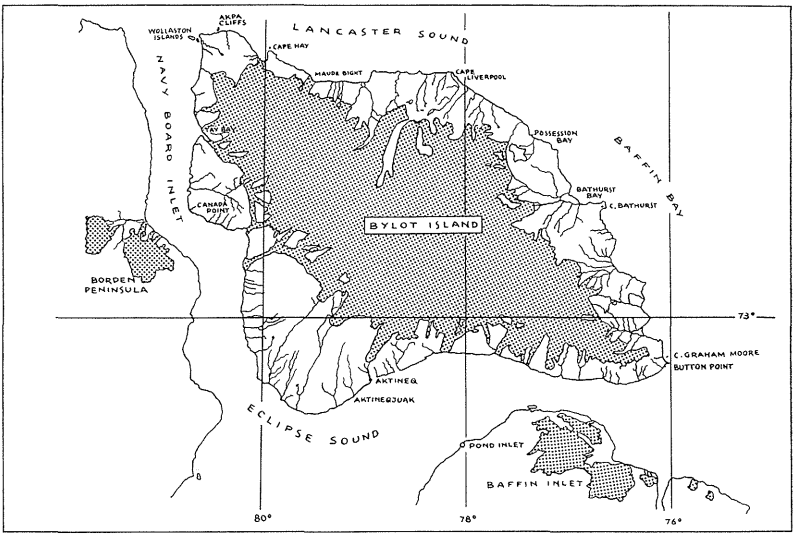


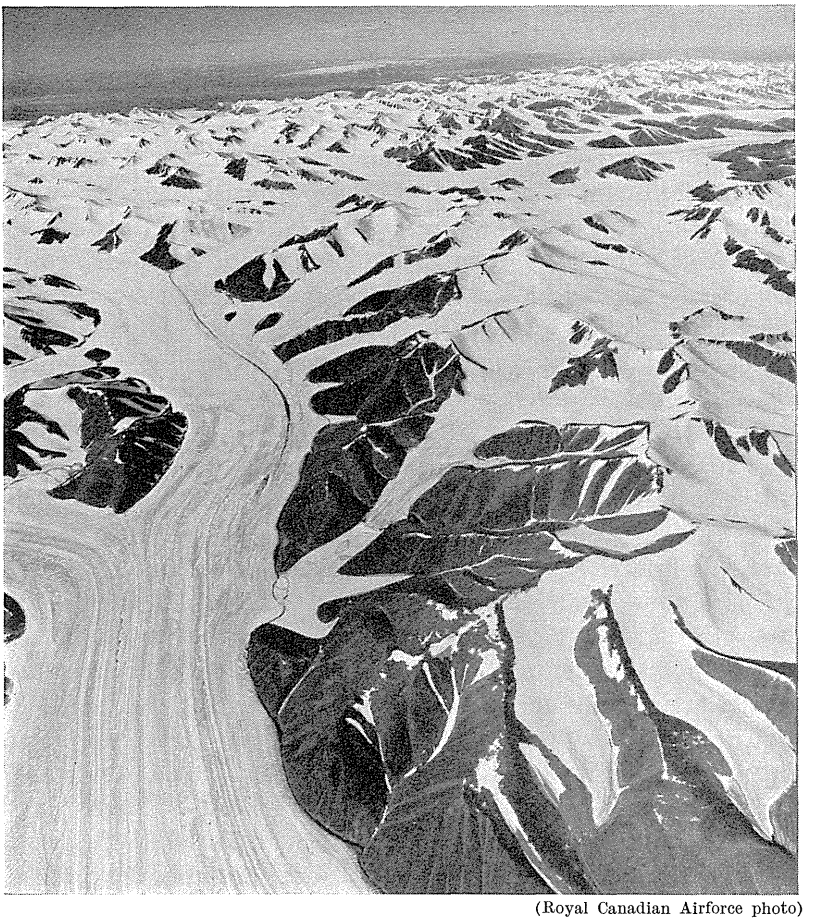
Fig. 1. Map of Bylot Island showing principal localities mentioned in the text.
Kort over Bylot Island med de vigtigste i teksten omtalte stednavne.

73° 45′ north and between longitudes 76° and 81° west. It is approximately rectangular in shape and 4,500 square miles in area.

The island is sheltered on the south and southwest by the mountainous coasts of northern Baffin Island from which it is separated by the narrow waterways of Eclipse Sound and Navy Board Inlet. It is bounded on the north by Lancaster Sound and on the northeast by the wide expanse of Baffin Bay.

Bylot Island is mountainous, rising to about 6,200 feet at its highest points. Approximately 2,000 square miles of the island are covered by an ice cap. Large outlet glaciers descend on all sides, two on the northwest and one on the south reaching tidewater. Those on the south and southwest have spectacular ice falls.

The main mountain range is Precambrian, the bleak summits of which protrude through the ice cap (fig. 2). Sedimentaries, especially gypsum and limestone, are characteristic of the southwest and northwest regions. In those regions also, shell deposits and other signs of raised beaches can be found at 500 feet above the present sea-level.



(Royal Canadian Airforce photo)

Fig. 2. The mountaineous and glaciated interior of Bylot Island
Bylot Islands bjergfulde og brædklædte indre.

The vegetation is dense in the lower valleys from which the glaciers have receded. This is especially so in the southwest valleys which receive the full effect of southern exposure. In addition, between the central mountain ridge and the southwest coast, there is a low-lying region of some 500 square miles which is largely sedimentary in character and supports a dense cover of vegetation.

This low-lying region is deeply eroded in places by river beds and to a lesser extent by streams and rivulets. Between the slopes and small ravines caused by erosion are extensive

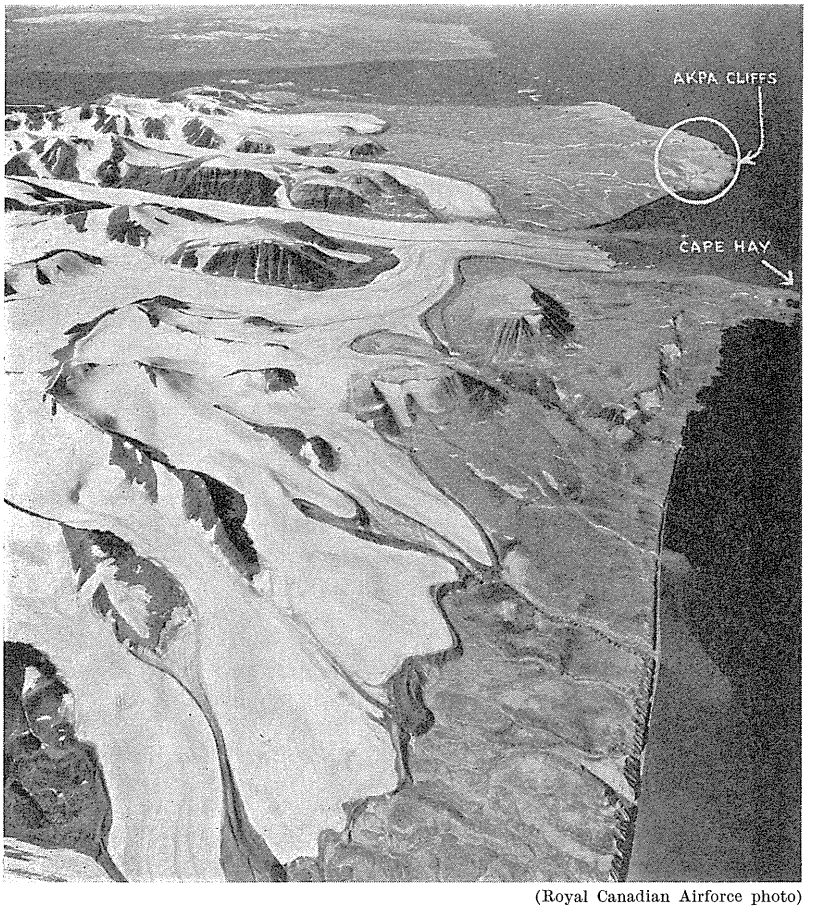
wet and marshy areas where low dry ridges and mounds created by frost action are numerous. This is the nesting biotype of numerous shore and land-birds and perhaps of the major part of the world population of the Greater Snow Goose (*Anser caerulescens atlanticus* (Kennard)).

The dominant vegetation of the southwest region is *Salix arctica*, *Dryas integrifolia*, and *Luzula confusa*. Sheltered areas have heavier growths of mosses and *Cassiope tetragona*, while the exposed, wind-blown areas are characterized by lichens, *Papaver radicatum* and *Saxifraga oppositifolia*. Several species of sedges and grasses grow in the wetter regions, in which *Oxytropis maydelliana* and *Polygonum viviparum* are also abundant.

There is some variation in the density of vegetation in different parts of the low-lying southwest region, caused perhaps by the prevailing winds, which are easterly in Eclipse Sound and northwesterly in Navy Board Inlet. Thus, bordering Eclipse Sound, the western slopes of the valleys and ravines are generally bare of vegetation. The effect of the winds on the land is not so apparent in Navy Board Inlet, and there the valleys are usually uniformly covered with vegetation.

The northwest region of Bylot Island is vastly different. Steep cliffs of Silurian limestone border the coast westwards from Cape Hay (fig. 3). From the top of those cliffs the land extends gradually upwards to a plateau covered with glacial debris and frost shattered rock, and then gradually downwards to sea-level at Navy Board Inlet. This region is cut, especially on the north and northwest, by steep ravines. Vegetation is scanty even in sheltered areas on the north coast and the upper plateau. There, apart from several lichens, *Saxifraga oppositifolia* and *Papaver radicatum* are characteristic. In sheltered valleys, and on the southern slopes bordering Navy Board Inlet, the vegetation once again becomes dense, as it is on the floors of the valleys extending from that region to the southwest region previously described. Except in the sheltered valleys, land-birds are rare in the northwest region. Instead, the cliffs support an enormous population of sea-birds, of which the Arctic Murre (*Uria lomvia lomvia*) is dominant.

The Greenland Collared Lemming (*Dicrostonyx groenlan-*



(Royal Canadian Airforce photo)

Fig. 3. The northwest region of Bylot Island.
Bylot Islands nordvestlige del.

dicus) was the only lemming recorded. Its extreme abundance in 1957 probably accounted for the large numbers of snowy owls and jaegers recorded. Polar Bears (*Thalarctos maritimus*) were recorded at Cape Hay and along the north coast, their movements being largely determined by the location of the floe-edge. The Arctic Fox (*Alopex lagopus*) was not recorded in the vicinity of the sea-bird colonies (perhaps because of the numerous lemmings elsewhere) but was present in the glacier valleys and along the southwest coast. Arctic Hares (*Lepus arcticus*) were seen but were not especially numerous. Several

Short-tailed Wessels (*Mustela erminea*) were seen in the southwest region. No caribou or sign of them were recorded but old antlers indicated that they had occurred there in the past.

In a normal year the ice may not completely break up in Navy Board Inlet until mid-August. It is not strange, then, that Bylot Island is comparatively unexplored and that until quite recently it was considered to be part of the mainland. Pond Inlet (Mitimatalik of the Eskimos) was established on the Baffin Island side of the Eclipse Sound by the Hudson's Bay Company in 1921. It is one of the most northerly trading posts in the Eastern Canadian Arctic.

Annotated list.

Common Loon (*Gavia immer* (Brünnich)). FREUCHEN (HØRRING, 1937) reported this species as a fairly common breeding bird at Pond Inlet and its vicinity. On July 26, 1924, he wrote: "The Great Northern Divers are now in the water at Pond Inlet, each family with two young..." ELLIS did not record this species for Bylot Island or Pond Inlet nor did we in 1957. We believe that FREUCHEN's note on the occurrence of the Common Loon in this region may be erroneous especially since the fledgling date would be an abnormally early one for loons in those latitudes and because he did not record the Red-throated Loon (*Gavia stellata*) for Pond Inlet. SNYDER (1956) includes Bylot Island within the breeding range of the Common Loon presumably on FREUCHEN's authority.

Arctic Loon (*Gavia arctica* (L.)). FREUCHEN (HØRRING, 1937) reported this species from Milne Inlet and Pond Inlet in 1924. We did not record it on Bylot Island.

Red-throated Loon (*Gavia stellata* (Pont.)). We first observed this species in the southwest region of Bylot Island on June 14 and five days later in the northwest region. It was a fairly common breeding species in the southwest region and in the valleys along Navy Board Inlet but rare (not more than three pairs) in the extreme northwest. The earliest hatching date recorded was July 17 and the earliest fledging was August 19. A few young birds had not left their natal ponds as late as August 27. We found this species quite common also in the Pond Inlet region in late August.

Fulmar (*Fulmarus glacialis* (L.)). ELLIS (1956) recorded Fulmars at the floe-edge near Button Point on May 16, 1955. We recorded them in the same locality on May 28, 1957. Fulmars were observed in Eclipse Sound and Navy Board Inlet as soon as the ice broke up. They were abundant all summer in Lancaster Sound, especially off Cape Hay. Several birds collected at Cape Hay during the summer had brood

patches, which indicated that they originated from a nearby colony. SCHERMAN (1956) erroneously reported a Fulmar colony at Cape Hay. The nearest colony to that region appears to be the very large one in Admiralty Inlet discovered by FREUCHEN (HØRRING, 1937).

Canada Goose (*Branta canadensis* (L.)). SCHERMAN (1956) mentions the occurrence of this species at Button Point in late June, 1954. A single Canada Goose appeared in the southwest region on June 15 with a flock of sub-adult Snow Geese. It was a small goose about the size of the Snows.

Brant (*Branta bernicla* (L.)). SCHERMAN (1956) mentions brant in Eclipse Sound but gives no particulars. ELLIS (1956) tentatively recorded a flock of dark geese at Button Point on June 6, 1955, as brant. We saw several flocks, over 200 individuals in all, in Navy Board Inlet on August 24 but could not be certain of their subspecific identity.

Barnacle Goose (*Branta leucopsis* (Bechstein)). ELLIS (1956) tentatively identified a Barnacle Goose at Button Point on June 9, 1955. A specimen of this European species was taken near Cape Dorset, Baffin Island, in August, 1924 (Auk, **44**, p. 221).

Lesser Snow Goose (*Anser caerulescens caerulescens* (L.)). Five blue-phase sub-adults of this nominate form, intermingled with others of the same age-class, were seen during the summer in the southwest region. No adults were positively identified.

Greater Snow Goose (*Anser caerulescens atlanticus* (Kennard)). The Greater Snow Goose began to arrive on Bylot Island on June 1 in small flocks. The first eggs were laid on June 8 and the laying period extended to June 20.

The nests were located in shallow dry depressions, usually on the slopes, and were composed of remnants of the surrounding vegetation and were lined with down. Although a few isolated nests were found, most of the geese nested in loose colonies ranging from 25 to 300 pairs. It was determined that approximately 7,500 pairs of Snow Geese nested on Bylot Island in 1957.

The clutch size of 118 nests varied from 2 to 9 eggs and averaged 4.6. There was a tendency for the earliest nesters to lay the largest clutches. Measurements of 123 eggs were: 73.8–91.4 (81.2) × 50.0–57.0 (53.4).

Hatching (56 nests) took place between July 8 and 13. No addled or infertile eggs were noted. Length of incubation period was 23 to 25 days (18 nests).

The broods were taken directly to inland marshes where the young browsed on paludal herbaceous plants. Early in the spring the adult geese fed mainly on the roots of *Oxytropis maydelliana*. Later in the season they fed on the bulbous roots of *Polygonum viviparum*. In early August each family group moved slowly towards the coast, joining others on the way. By August 20, they had congregated in large flocks on the grassy plateaus and marshes along the southwest and northwest coasts.

The sub-adults and non-breeders remained in small flocks during the spring and summer and began to moult on July 14. The first free-flying sub-adults were recorded again on August 6. The breeding birds began to moult approximately two weeks after the young had hatched and were free-flying again as early as August 16 although late moulters were still not free-flying on August 24.

The year 1957 seemed to be a very successful year for Snow Geese on Bylot Island. Thirty-seven family groups observed on August 21 averaged 4.1 goslings.

A full account of the Snow Goose investigation has been issued recently elsewhere (LEMIEUX 1959).

Old-squaw (*Clangula hyemalis* (L.)). – ELLIS (1956) recorded Old-squaws at Button Point as early as May 20 in 1955. We recorded them in the same locality on May 30. This was a common nesting species in the southwest region, and in valleys bordering Navy Board Inlet. Moulting males were especially abundant in the late spring opposite the Wollaston Islands.

Common Eider (*Somateria mollissima* (L.)). The Common Eider was comparatively rare in our regions. About a dozen males were recorded at Button Point on May 30, among 2,000 King Eiders. Nine others were found dead or dying at the floe-edge. Two nearly dead males examined were emaciated. Perhaps the preferred food of this species was not available at the floe-edge. In Newfoundland in winter, the Common Eider remains near the coast while the King Eider feeds a mile or more off the coast in deeper water.

Common Eiders were present in the Cape Hay region during the summer but in insignificant numbers compared with King Eiders. Several pairs were observed inland during the early part of the breeding season. No nest was positively located but a female with a brood of three was observed closely near Cape Hay on August 3.

King Eider (*Somateria spectabilis* (L.)). ELLIS (1956) recorded King Eiders at Button Point as early as May 15. We recorded a raft of more than 2,000 individuals of both sexes at the floe-edge at Button Point on May 30. It was a common nesting species on Bylot Island especially along Navy Board Inlet. Nests were scattered rather than colonial, usually of five or six eggs. They were located on snowfree ridges or on slopes, usually in a mat of *Tetragona*. The first young in the northwest region were observed on July 28.

King Eiders appeared in Lancaster Sound, on June 26, soon after the ice left Cape Hay. Their numbers increased daily until on July 6 a raft of 2,400 individuals, mostly males, concentrated in an inlet west of Cape Hay where they spent the next several weeks in moult.

On July 15, a census of moulting King Eiders along a 15-miles strip of coast from Cape Hay westwards was made. The total estimate was 10,400 individuals. Except for a raft of 7,000 some distance off shore, they were clustered along the floe-edge, along the beaches and on the headlands.

Rough-legged Hawk (*Buteo lagopus* (Gmelin)). This species is widely distributed in southern Baffin Island (SUTTON and PARMELEE, 1956) and has been recorded breeding as far north in the western Canadian Arctic as Prince Patrick Island (MACDONALD, 1954). There is no published record of its occurrence north of the Arctic Circle in the eastern Canadian Arctic. Dark Rough-legged Hawks occurred during the summer, 1957, at Cape Hay where later in the season they frequently captured nestling Kittiwakes. LEMIEUX found a nest of three young on July 26 on a cliff on the east branch of the Aktineqjuak River. The nest was made of willow twigs approximately 100 feet above the river and 50 feet from the top of the cliff. The young were captured and brought back alive to the Quebec Zoological Garden.

Gyrfalcon (*Falco rusticolus* L.). SCHERMAN (1956) wrote that their expedition did not see the Gyrfalcon on Bylot Island in 1954. ELLIS (1956) did not record it during the spring of 1955. Possibly the high lemming population in 1957 accounted for its occurrence in that year. We recorded Gyrfalcons all summer in both the southwest and northwest regions. Occupied nests or adults feeding fledglings were recorded at a cliff ten miles west from Cape Hay on August 3, at Tay Bay on August 23, and in a glacial valley east of Tay Bay on August 24. All were in a white phase.

Peregrine Falcon (*Falco peregrinus* Tunstall). SCHERMAN (1956) mentions single observations in southwestern Bylot Island during the summer of 1954. ELLIS (1956) saw a single bird near Pond Inlet on July 22, 1955. A single male was recorded at Cape Hay on June 15, 1957, and another single bird in the southwestern region on July 28.

Rock Ptarmigan (*Lagopus mutus* (Montin)). Pairs were fairly common along the coast on snowfree ridges in early June. As late as June 11, the males were in winter plumage while the females appeared to be in full summer plumage. No nests or broods were observed during the summer but the natives assured us that Ptarmigan normally nested farther inland on Bylot Island.

Sandhill Crane (*Grus canadensis* (L.)). M'CLINTOCK (1859) "saw a pair of Canadian brown cranes, the first of the species I have ever seen so far north" at Button Point on July 29, 1858. BAIRD (1940) recorded a single bird on Bylot Island in 1939. ELLIS (1956) reported a single bird from the same locality on June 8, 1955. Special Constable PANIPOOKOOCHOO, Pond Inlet, told me that he was familiar with this species from Dundas Harbour, Devon Island, where they usually bred each year. PANIPOOKOOCHOO told me that he saw a pair at Button Point around 1930 and a pair with two young in a glacier valley east of Tay Bay in the late summer of 1941. We saw six adults and one young of the year in a glacier valley east of Tay Bay on August 23, 1957, possibly the same locality where PANIPOOKOOCHOO recorded them in 1941. These birds were in separate groups of 2, 2, and 3. The two pairs were observed on several occasions in the same part of the valley but we were unable to locate any other young. Corporal RAY JOHNSON saw

a pair at the bottom of Pacquet Bay, about 70 miles southwest from Pond Inlet on August 21, 1957.

Ringed Plover (*Charadrius hiaticula* L.). We first recorded this European species on June 8 when a group of three was noted displaying on a shingly beach at Canada Point. On June 9, a single bird was observed in a similar location, 40 miles farther west. It was rare in the northwest region where probably not more than three pairs nested. It was probably more common along the southwest coast. A nest of three eggs was found in the southwest region on June 28 and young, about one week old, on July 29. This species was fairly common along the coast in late August, with a high total of 32 in one locality on August 24. Specimens were collected.

Golden Plover (*Pluvialis dominica* (Müller)). Golden Plovers arrived in the southwest region on June 14. They were more common in that region than the Black-bellied Plovers. They were not recorded west of Tay Bay. Most had left the region by the third week in August but as late as August 24 a few small family groups were noted along the southwest coast.

Black-bellied Plover (*Squatarola squatarola* (L.)). This species arrived in the southwest region on June 15 and in the northwest region on June 19. About 15 pairs bred in the northwest region, where the Golden Plover was not observed. Black-bellied Plovers were rare in the interior of the island after the middle of July although an individual was recorded there occasionally up to August 26. Most had left the island by the third week in August.

Turnstone (*Arenaria interpres* (L.)). Ellis (1956) recorded two Turnstones at Button Point and one at the Aktineq River during June, 1955. We saw a single adult near Cape Hay on July 15 and a single juvenile in the same locality August 8—10. Several small flocks of juveniles were observed along the northwest coast on August 23. No specimens were collected for sub-specific determination.

Knot (*Calidris canutus* (L.)). A group of four was observed near Canada Point on June 7 and on the same day another group of four, 50 miles farther east. A single bird was observed on the plateau near Cape Hay on June 14 and was located again on the following day but not seen thereafter.

Purple Sandpiper (*Calidris maritima* (Brünnich)). The only published record of the occurrence of Purple Sandpipers on Bylot Island was by Freuchen (Hørring, 1937) under the date of July 5, 1924: "One pair of Sandpipers, presumably *Tringa maritima* on the island". A single bird was observed near the Aktineq River on June 5, nearly a week before any other shore birds were seen. Pairs and trios, in full breeding display, were observed along the northwest coast on June 9. Later, it was determined that the Purple Sandpiper was a fairly common breeding bird in the northwest region of Bylot Island. Both adults and juveniles were still present along the coast in late August and several flocks were recorded at Pond Inlet on August 29.

Pectoral Sandpiper (*Calidris melanotos* (Vieillot)). ELLIS (1956) recorded a pair shot by an Eskimo on June 4, 1955, at Button Point. We did not positively record it, although a flock of five sandpipers seen on June 10 in the southwest region were believed to be Pectoral.

White-rumped Sandpiper (*Calidris fuscicollis* (Vieillot)). Recorded in the southwest region on June 10. It was a fairly common breeding species in both the southwest and northwest regions.

Baird's Sandpiper (*Calidris bairdii* (Coues)). The first spring observation was on June 10 in the northwest region. It was extremely common in both regions. Downy young were recorded from July 15 to August 16. We suspect that the breeding period was extended because of snow. A great deal of its usual nesting habitat in the northwest region was not free from snow until early July. This species was still present in hundreds along the coast in late August. On one extensive mud flat on August 24, an estimated 900 Baird's Sandpipers were feeding within an area of two acres.

Sanderling (*Crocethia alba* (Pallas)). FREUCHEN (HØRRING, 1937) recorded Sanderlings at Pond Inlet on July 28, 1924. LEMIEUX recorded two in southwestern Bylot on June 11 but could not confirm breeding in that locality. At least two pairs, possibly three, bred on a frost-shattered strip of coast on the Navy Board Inlet side of the northwest region. A female with a well-developed brood patch was collected there on July 20.

Red Phalarope (*Phalaropus fulicarius* (L.)). The first of this species were noted in the southwest region on June 21. On July 25, and for the next several days, large flocks were recorded in Eclipse Sound. It was not recorded in the northwest region but in late August small flocks, including birds of the year, were seen all along the coast from Canada Point to Pond Inlet.

Pomarine Jaeger (*Stercorarius pomarinus* (Temminck)). Not positively determined to be breeding but three pairs maintained territories some five miles inland in the southwest region.

Parasitic Jaeger (*Stercorarius parasiticus* (L.)). No arrival dates noted, but eventually found to be well distributed in both regions, more commonly in the northwest region. Nests and young were recorded in both regions.

Long-tailed Jaeger (*Stercorarius longicaudus* Vieillot). First recorded on June 6 when flocks of as many as 19 were recorded flying across Eclipse Sound or resting on the ice. At least four territories, but only two nests were recorded for the northwest region, at least seven nests for the southwest region. No nest contained more than two eggs. Young were on the wing in the northwest region by August 12 although one young bird at Tay Bay on August 22 was still unable to fly.

[Skua (*Catharacta skua* Brünnich). HENNESSEY's (1910) report that this species was plentiful at Pond Inlet must certainly have referred to the Parasitic Jaeger, which was not mentioned.]

Glaucous Gull (*Larus hyperboreus* Gunnerus). These gulls were

present at the floe-edge at Button Point on May 30, Corporal RAY JOHNSON, Royal Canadian Mounted Police, confirmed that they bred on the murre cliffs at Cape Graham Moore, and also reported another colony at Cape Bathurst.

This species nested singly or in small colonies on the Wollaston Islands and along the coast from Tay Bay westward to Cape Hay. Not more than half a dozen pairs actually nested on the immense murre cliffs, although there were small colonies on its fringes. Glaucous Gulls rarely patrolled the sea-bird cliffs at Cape Hay and an examination of 75 nests indicated that murre eggs or nestlings were minor items of food brought to the young gulls. It was apparent that the gulls depended for food on the remains of the abundant marine mammals in the region, and obtained sufficient from that source.

Thayer's Herring Gull (*Larus argentatus thayeri* Brooks). Singles, pairs or groups of three were recorded en route to Cape Hay from June 5 to June 11. At that time both Eclipse Sound and Navy Board Inlet were still frozen over. The gulls seen were at polar bears' kills or in the vicinity of seal holes. A pair nested among some Kittiwakes at Cape Hay and hatched four young, which had not left the nest on August 20. A small colony of 26 pairs was located at Tay Bay on August 21. Very few of the young were on the wing on that date. Near by was a colony of Glaucous Gulls which the Herring Gulls never permitted to encroach on their nesting cliff. Similar behaviour was noted at Cape Hay, where both male and female adults drove prowling Glaucous Gulls from the vicinity of their nests.

Ivory Gull (*Pagophila eburnea* (Phipps)). ELLIS (1956) stated that Ivory Gulls appeared occasionally in 1955 at the floe-edge near Button Point. Our only observation is a single adult near Cape Hay on August 19. It was feeding on the remnants of a dead walrus.

Kittiwake (*Rissa tridactyla* (L.)). Slightly more than 2,000 occupied nest sites were recorded at Cape Graham Moore on May 30, and approximately 3,000 on the following day. ELLIS (1956) recorded approximately 2,000 on the same cliffs on June 6, 1955, and only 1,000 two days later. SCHERMAN (1956) estimated 5,000 at the same cliffs in late June, 1954, which presumably was the breeding population for that year.

An estimate on June 12, 1957, indicated that there were slightly fewer than 3,000 occupied nest sites at Cape Hay. However, on June 15, Kittiwakes arrived at the Cape Hay nesting cliffs by tens of thousands, driving all the murres (except about 10,000 well entrenched in several gullies) from the cliffs. Unlike the Kittiwake, the Murre is unable to manoeuvre at short range. Consequently, the Murres could not penetrate the barrier of milling Kittiwakes and remained for the most part flying back and forth in a rather dense mass some distance from the cliffs. It was impossible to estimate accurately the number of Kittiwakes present at that time. A guess was at least 300,000. On June 17 the great majority of the Kittiwakes left as unexpectedly as they had

arrived, and the murres returned to the cliffs. A survey during late summer indicated that nearly 50,000 pairs of Kittiwakes nested at Cape Hay in 1957.

Some aspects of nest building, especially those concerned with gathering nest material, appeared to be largely a demonstration of communal activity. For instance, after a rainy period on June 19 (the first rain of the year), Kittiwakes gathered in hundreds for three days on the slopes near our camp, gathering large beakfuls of turf or vegetation. Some of them flew directly back to the cliffs with this nesting material. Others settled down for a while on freshwater lakes on the ice and commenced to bathe. Other Kittiwakes passing by, including some with nest material, usually joined the bathing groups.

The first egg was recorded on June 20. The laying period was rather protracted. On August 20 young were in various stages of growth but none was on the wing. Clutches varied from one to three eggs. Storms gradually destroyed many of the nests during the summer. On August 17, 1,094 nests examined contained 1.2 nestlings on the average.

When we arrived at Cape Hay in early June we noticed the remnants of dead fledglings on the scree at the base of the cliff, on the ice in Lancaster Sound, and even on the upper plateau, where the carcasses were probably carried by foxes and ravens. It is possible that pack ice had moved into the area the previous autumn before all the young had completely fledged, and discouraged the adults from making long foraging excursions for food. Or perhaps food (surface amphipods) became progressively scarce in the region late in the summer at a time when the greatest amounts were required. It is interesting to note that similar late summer mortality occurs in the Fulmar colony at nearby Admiralty Inlet. Corporal RAY JOHNSON, passing by that colony during the previous winter, noted numerous dead young Fulmars on the ice at the base of the cliffs. FREUCHEN (HØRRING, 1937) and ELLIS (1956) made similar comments.

Very few second-year Kittiwakes were observed in the vicinity of the nesting cliffs at Cape Hay in 1957 and those only late in the season. Late in August, second-year birds became quite abundant in Eclipse Sound and Navy Board Inlet.

Sabine's Gull (*Xema sabini* (Sabine)). FREUCHEN (HØRRING, 1937) recorded Sabine's Gulls breeding in association with Kittiwakes at Button Point (*i.e.* Cape Graham Moore) and at Tuarpat. We are unable to locate FREUCHEN's Tuarpat unless it is Cape Hay. SNYDER (1956) describes the breeding habitat of Sabine's Gulls in the Canadian Arctic as "flat, low terrain, either on coastal islands or inland tundra not too remote from the coasts".

On August 22, we observed about 50 adult Sabine's Gulls feeding (with Kittiwakes) on amphipods in Navy Board Inlet, a few miles south from Tay Bay. On the following day, some 25 miles south of Canada Point, we saw a flock of 65 adults and three fledglings resting on the shore. Investigating a nearby Arctic Tern colony on a gravelly

spit, we found two adult Sabine's Gulls attempting to drive a Long-tailed Jaeger from the vicinity of a nearly fledged Sabine's Gull nestling. There were several other Sabine's Gulls on this spit, but as a storm was approaching, we decided to abandon the search. However, the observation was sufficient to determine breeding in that locality. About one mile farther east, we observed a flock of 41 fledglings, some barely able to fly, and five adults resting on the water in Eclipse Sound.

Arctic Tern (*Sterna paradisaea* Pont.). First recorded on June 21 when a flock of 34 arrived at a low sandspit in the southwest region where they eventually nested. The first egg was recorded on July 7; the first young on the wing on August 20.

This species was a common nester in suitable locations along the southwest coast but the colonies were small (maximum probably 50 pairs) and the nests were scattered. The only observation for the northwest region was a flock of eight which flew eastwards along Lancaster Sound on August 3.

Arctic Murre (*Uria lomvia* (L.)). There is a colony of some 20,000 pairs at Cape Graham Moore, not at nearby Button Point, as has been stated in the literature. M'CLINTOCK (1859) mentioned a large colony near Cape Hay although he was unable to visit it due to pack ice. There are no other accounts in the literature concerning the Cape Hay Murre colony hence its precise location and a study of that colony was one of our objectives. It is not located precisely at Cape Hay, but some five miles to the west of it. It is very large, containing in 1957 slightly more than 400,000 breeding pairs, and extends along a three-miles stretch of limestone cliffs, parts of which are 1,000 feet high.

The nesting phenologies of the Cape Graham Moore and Cape Hay colonies are probably quite similar. Mr. DOUG WILKINSON visited Cape Graham Moore on June 25, 1951, and informed us that on that date they were just beginning to lay. Dr. W. DRURY informed us (*in litt.*) that only about 10 eggs were laid at Cape Graham Moore on June 24, 1954. The first egg at Cape Hay in 1957 was recorded on June 20, but the peak laying date was June 29.

In a study of some 400 pairs of marked adults and their eggs, it was found that 56 per cent retained their original eggs, 30 per cent laid one replacement, 11 per cent laid two replacements and 3 per cent did not re-lay. Replacements were laid from 10 to 16 days after the egg was lost and no eggs lost after July 11 were replaced.

In a study of 100 marked eggs, the time of laying and hatching of which was determined within 12 hours, 10 per cent hatched within 32 days, 30 per cent hatched within 33 days and 60 per cent hatched within 34 days. Some chicks required nearly two hours to emerge after first pecking through the shells; others required two days. If the membrane lining of the egg dried out quickly, it became tough and the chick had difficulty emerging. Thus the variation may be largely due to micro-climatic conditions at the nest site.

Nestling mortality was quite low at Cape Hay in 1957. Ninety-three per cent of the deaths of nestlings occurred during the first six days and was largely due to falling off the ledges or into crevices. A sample of 100 marked nestlings which successfully fledged showed that fledging occurred at from 18 to 25 days of age with the majority (40 per cent) at 19 days of age. Their weights varied from 175 to 215 grams.

Dovekie (*Plautus alle* (L.)). ELLIS (1956) recorded Dovekies at the floe-edge at Button Point on May 17. We did not record any at that locality on May 30 although the natives informed us that they usually occur there in the spring. The report of DUVALL and HANDLEY (1946) of the "immense horde of Dovekies" forced from their rookery at Cape Hay by the noise of the sea-plane on August 28, 1946, appears to be an error; it must surely refer to Murres. WYNNE-EDWARDS' (1952) report that they may nest with murres at Cape Graham Moore (*i.e.* Button Point) may also be an error (ELLIS, 1956).

Black Guillemot (*Cepphus grylle* (L.)). A common breeding bird along all the higher parts of the coast and certainly the most widely distributed sea-bird. The nesting density was quite low along the steep murre cliffs west of Cape Hay but quite high at the Cape itself which is largely a mass of frost and ice-shattered rubble. This bird was also common on the Wollaston Islands. The only food item observed brought to the young was Polar Cod (*Boreogadus saida*).

Snowy Owl (*Nyctea scandiaca* (L.)). This is a fairly common breeding bird with its highest density probably in the southwest region. Every vegetated glacial valley harboured a pair or two. It was quite rare in the northwest region. Brief notes were made on three nests: one of seven eggs and a chick just hatching on July 4; a nest with six chicks hatched and another hatching plus two eggs on July 5; a nest with seven young on July 9. Snowy Owls were seen frequently along the coast during our trip from Cape Hay to Pond Inlet in late August.

Horned Lark (*Eremophila alpestris* (L.)). A common breeding species in the southwest regions but rare in the extreme northwest. First recorded on June 14.

Raven (*Corvus corax* L.). Ravens were observed at Pond Inlet (according to the police) during the whole winter although the temperature dropped at times to –50°F. They were observed in all regions but not very commonly. Flying young were noted at Cape Hay as early as July 4.

Water Pipit (*Anthus spinoletta* (L.)). Breeding rarely in the southwest region. SCHERMAN (1956) said that that region is its most northerly breeding site. It was not recorded in the northwest region but at Tay Bay on August 21, 1957, and every day thereafter during late August, small flocks of Pipits were noted along the shores.

Lapland Longspur (*Calcarius lapponicus* (L.)). A common breeding bird in all suitable parts of the island. The period of laying extended from June 26 to July 10. Young were hatched as early as July 10.

Snow Bunting (*Plectrophenax nivalis* (L.)). Males were present at Pond Inlet on May 25 and we were told that a few had been seen during the previous week. Both males and females were present in the northwestern region on June 11 although most of that region was still covered with snow. It was a common nesting species everywhere especially in the northwest region where there was a great deal of scree. Some brief notes were kept on a nest near Cape Hay. The first egg was laid on June 20, and one on each successive day until a clutch of five was completed on June 24. The exact incubation period was not determined but the last fledgling left the nest on July 19. The time from first laying to last fledging was therefore 29 days.

DANSK RESUMÉ[1])

Fuglelivet på Bylot Island.

Fuglelivet på den store ø Bylot Island har tidligere kun været undersøgt af PETER FREUCHEN under 5te Thule Ekspedition, af canadieren D. V. ELLIS, som skrev derom i D.O.F.T. 1956, og af amerikaneren inden KATHERINE SCHERMAN. Forfatterne undersøgte øens fugleliv sommeren 1957, og var særligt interesserede i Snegåsen og Kortnæbbet Lomvie.

Bylot Island (fig. 1) ligger nordfor Baffin Island, på vestsiden af Baffin Bugt, omtrent på samme breddegrad som Upernavik Distrikt på Grønlandskysten overfor. Forfatterne giver en skildring af øens naturforhold, hvoraf fremgår, at der hersker højarktiske klimaforhold, hvilket præger både plantelivet og dyrelivet og også giver sig udtryk i sammensætningen af fuglelivet. Øens indre er dækket med indtil 1860 m høje bjerge, der danner et forrevet alpelandskab (fig. 2) og er rig på gletsjere. Der er en lokal indlandsis, som dækker henved 2000 kvadratmiles af indlandet. Nordvestlandet afviger på forskellig måde. Her er stejle kystklipper med store søfuglekolonier (fig. 3). Af pattedyr optrådte Halsbåndlemmingen (*Dicrostonyx groenlandicus*) talrigt i 1957. Isbjørnen blev kun truffet ved nordkysten af Bylot Island. Af andre pattedyr sås Polarræv, Snehare og Hermelin. Af de iagttagne fugle var de følgende de interessanteste:

Mallemuk (*Fulmarus glacialis*) var almindelig ved iskanten udfor Button Point 28. maj, og sås iøvrigt langs kysterne, såsnart isen brød op. Den nærmeste yngleplads er den af PETER FREUCHEN opdagede meget store koloni i Admiralty Inlet, Baffin Island.

Knortegås (*Branta bernicla*). En flok på over 200 blev iagttaget 24. august i Navy Board Inlet; racen kunne ikke bestemmes.

Lille Snegås (*Anser c. caerulescens*). Fem individer af den blå fase (»Blågæs«) sås i løbet af sommeren sammen med hvide individer i øens sydvestlige del. Det drejede sig om ungfugle.

Stor Snegås (*Anser caerulescens atlanticus*). I 1957 ynglede ca. 7500 par Store Snegæs på Bylot Island. Ankomsten fandt sted i små-

[1]) Udarbejdet af Red. *(Prepared by Ed.)*

flokke 1. juni, æglægningen fandt sted 8.–20. juni, klækningen 8.–13. juli, efter en rugetid på 23–25 dage. Kuldstørrelsen var 2–9, gennemsnit 4.6 æg. Ungerne blev efter klækningen ført til moser inde i landet, men tidligt i august bevægede familierne sig ud mod kysten, hvor de sluttede sig sammen i store flokke. De yngre, ikke-ynglende fugle begyndte at fælde 14. juli, og de første kom igen på vingerne 6. august. Ynglefuglene begyndte fældningen 2 uger efter at ungerne var klækkede og kunde som regel flyve igen omkring 16. august.

Kongeederfugl (*Somateria spectabilis*). Ynglede meget almindeligt. Rederne var spredt i det snefrie land og indeholdt 5–6 æg; de første unger iagttoges 28. juli. Fældende fugle, især hanner, sås i stort tal i Lancaster Sund, tiltagende i tal indtil 15. juli, da 10.400 individer blev talt langs en 15 miles kyststrækning.

Loddenbenet Musvåge (*Buteo lagopus*), der ikke tidligere var fundet ynglende nordfor polarkredsen i det østlige Canada, fandtes ynglende nær sydkysten.

Jagtfalk (*Falco rusticolus*), som ikke tidligere var fundet på Bylot Island, optrådte ret almindeligt, sikkert på grund af at det var lemmingår. Alle iagttagne fugle tilhørte den hvide fase.

Sandhøjtrane (*Grus canadensis*). Der sås 6 gamle og en ung fugl af denne sjældne art, og der anføres flere andre iagttagelser fra Bylot Island.

Stor Præstekrave (*Charadrius hiaticula*). Yngler ret almindeligt.

Amerikansk Hjejle (*Pluvialis dominica*) og Strandhjejle (*Squatarola squatarola*) yngler begge ret almindeligt på Bylot Island.

Islandsk Ryle (*Calidris canutus*), enkelte iagttoges.

Sortgrå Ryle (*Calidris maritima*) ynglede almindeligt. Den var tidligere ikke med sikkerhed påvist fra Bylot Island.

Hvidrygget Ryle (*Calidris fuscicollis*) var en ret almindelig ynglefugl.

Bairds Ryle (*Calidris bairdii*) var en overordentlig talrig ynglefugl.

Sandløber (*Crocethia alba*). To eller tre par fandtes ynglende.

Lille Kjove (*Stercorarius longicaudus*). Ynglede ret almindeligt.

Thayers Sølvmåge (*Larus argentatus thayeri*). En koloni på 26 par fandtes i Tay Bay og et enkelt par ynglede mellem riderne på Kap Hay.

Ride (*Rissa tridactyla*). Yngler ved Kap Graham Moore (ca. 2000 par) og ved Kap Hay (ca. 50.000 par). Forfatterne giver forskellige oplysninger om redebygning og ynglen. Badning på ferskvandssøer på isen iagttoges ofte. Eetårige fugle sås sjældent ved redekolonierne og først sent i august.

Sabinemåge (*Xema sabini*) konstateredes som ynglende.

Kortnæbbet Lomvie (*Uria lomvia*). Der findes en koloni på ca. 20.000 par ved Kap Graham Moore, og en meget stor koloni, omfattende ca. 400.000 par ved Kap Hay. Der foretoges undersøgelser over mærkede æg, hvoraf fremgik, at rugningen varede 32–34 dage, og

at ungerne forlod redepladsen 18–25, som regel 19, dage efter klækningen.

Tejst (*Cepphus grylle*). Almindelig langs de fleste kyster.

Sneugle (*Nyctea scandiaca*). Ret almindelig ynglefugl. I 1957 store kuldstørrelser (8, 9 og 7).

Ravn (*Corvus corax*) sås overalt, men ikke almindeligt. Den var øjensynligt standfugl på sydkysten.

Bjerglærke (*Eremophila alpestris*). Ynglede almindeligt i den sydvestlige, sjældent i den nordvestlige del af øen.

Skærpiber (*Anthus spinoletta*). Ynglede fåtalligt i den sydvestlige del af Bylot Island, og sås i småflokke ved Tay Bay sent i august.

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